SAP

Availability Control on Revenues

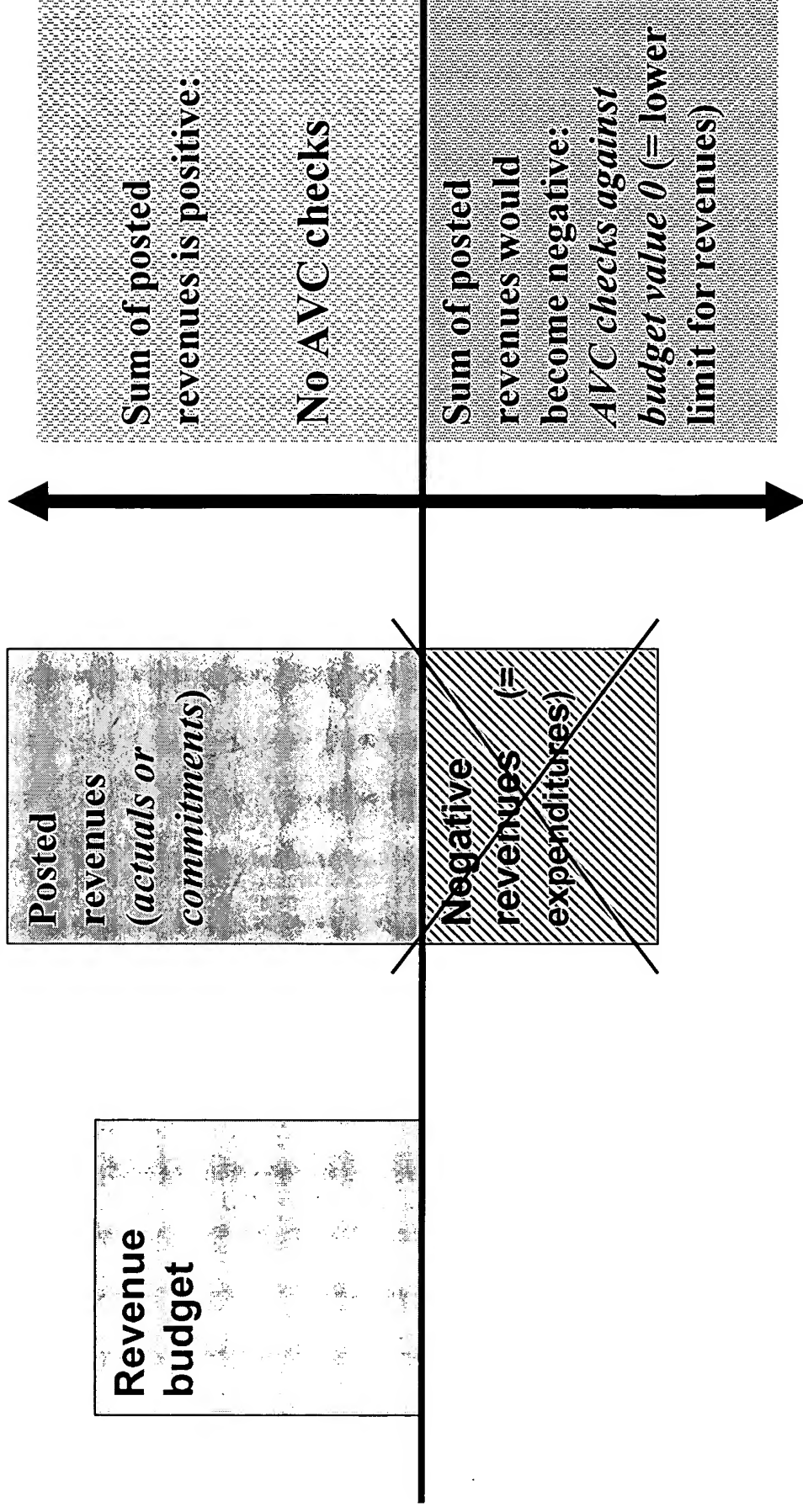## Solution for EA-PS 2.0 and JFMIP

Thomas Schaub

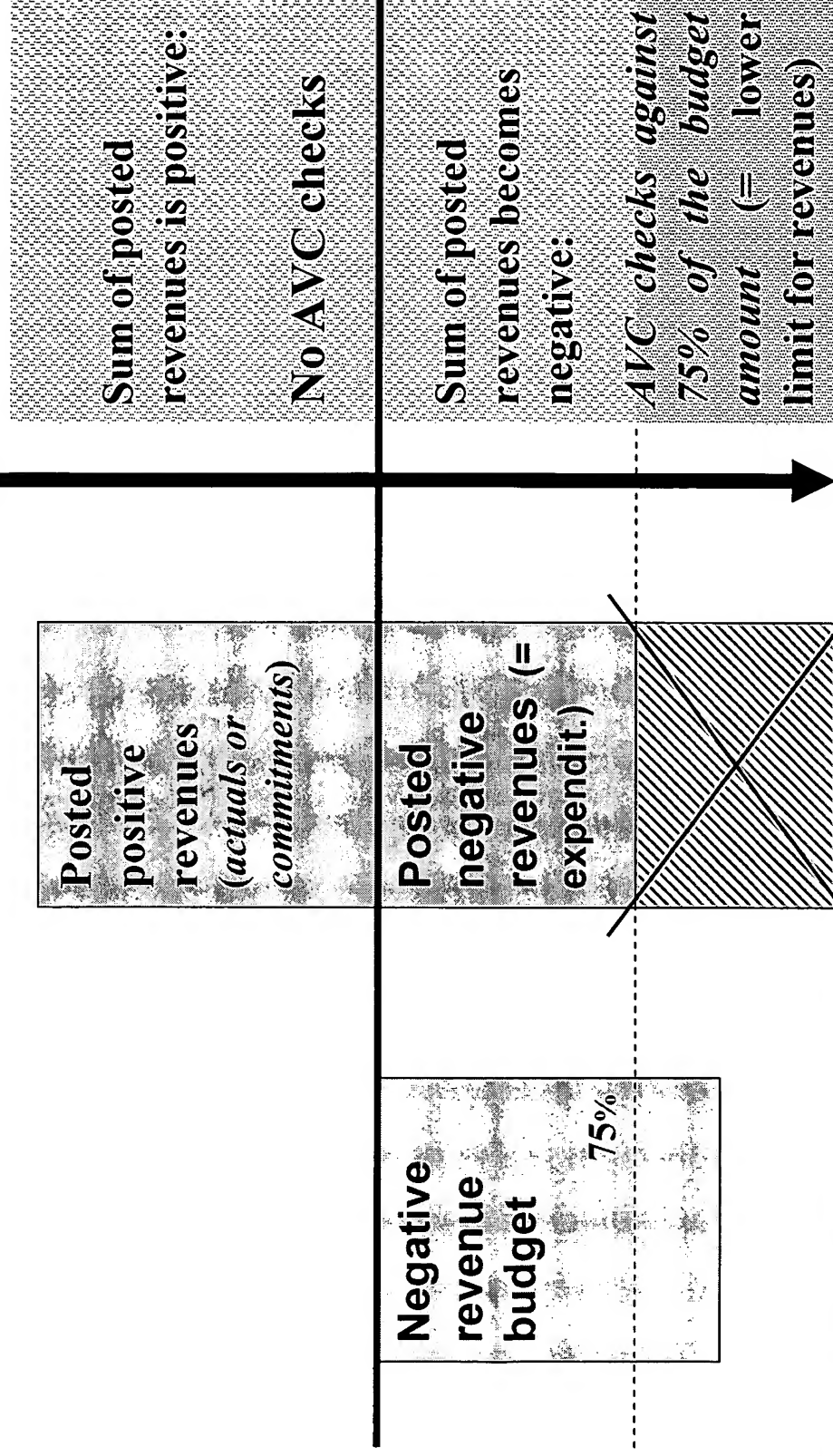Development IBU PS, SAP Labs France

AVC on revenues: *current view* (I)

☐ Availability control was designed to limit expenditures, but not to limit revenues → an administration is allowed to receive revenues without any upper limit.

☐ Consequence: For usual revenue scenarios (without negative revenue budget) AVC only prevents the system from posting expenditures on revenue items

AVC on revenues: *current view* (II)

Revenue budget

Posted revenues *(actuals or commitments)*

Negative revenues (= expenditures)

Sum of posted revenues is positive:

No AVC checks

Sum of posted revenues would become negative: *AVC checks against budget value 0* (= lower limit for revenues)

AVC on revenues: *current view* (III)

☐ Negative revenue budget with tolerance 75%

Sum of posted revenues is positive:

No AVC checks

Sum of posted revenues becomes negative:

AVC checks against 75% of the budget amount (= lower limit for revenues)

Posted positive revenues *(actuals or commitments)*

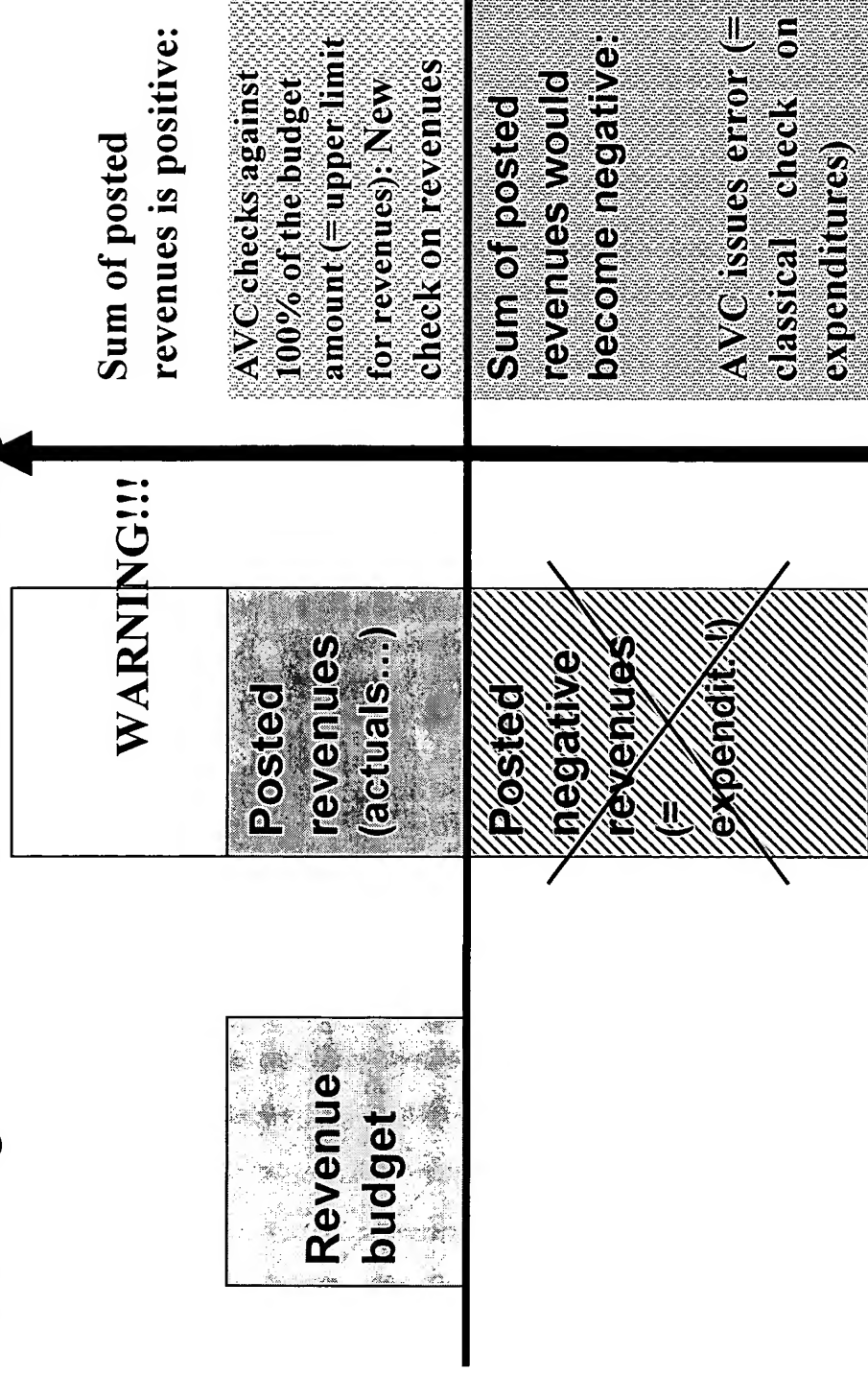Posted negative revenues (= expendit.)

Negative revenue budget

75%

AVC on revenues: *enhanced view* (I)

☐ *In addition and similar to limit expenditures, AVC will offer the possibility to limit revenues.*

☐ *Examples:*

☐ Some administration is authorized to accept revenues until a certain upper limit → AVC issues an error, if this limit is exceeded for revenues (e.g. Reimbursable Customer Orders).

☐ Another administration uses rules for Revenue Increasing the Budget (RIB), but likes to be informed, when collected revenues exceed some limit → AVC issues a warning in this case.

AVC on revenues: *enhanced view* (II)

☐ Example: error when checking expenditures and warning, if revenues > revenue budget

Sum of posted revenues is positive:

WARNING!!!

Revenue budget

Posted revenues (actuals...)

Posted negative revenues (= expendit.!)

AVC checks against 100% of the budget amount (= upper limit for revenues): New check on revenues

Sum of posted revenues would become negative:

AVC issues error (= classical check on expenditures)

Overview of the design

☐ Enhancement of the AVC check logic: two *ceiling types* that are simultaneously available for each control ledger ('single ledger approach')

☐ Consequences:

☐ Tolerance profiles with separate tolerances for *'ceiling for expenditures'* and *'ceiling for revenues'*

☐ Enhancement of the enqueue logic for shared locks

☐ New treatment and data storage of preposted budget values

→ reconstruct AVC necessary after upgrade

→ changes for AVC reporting

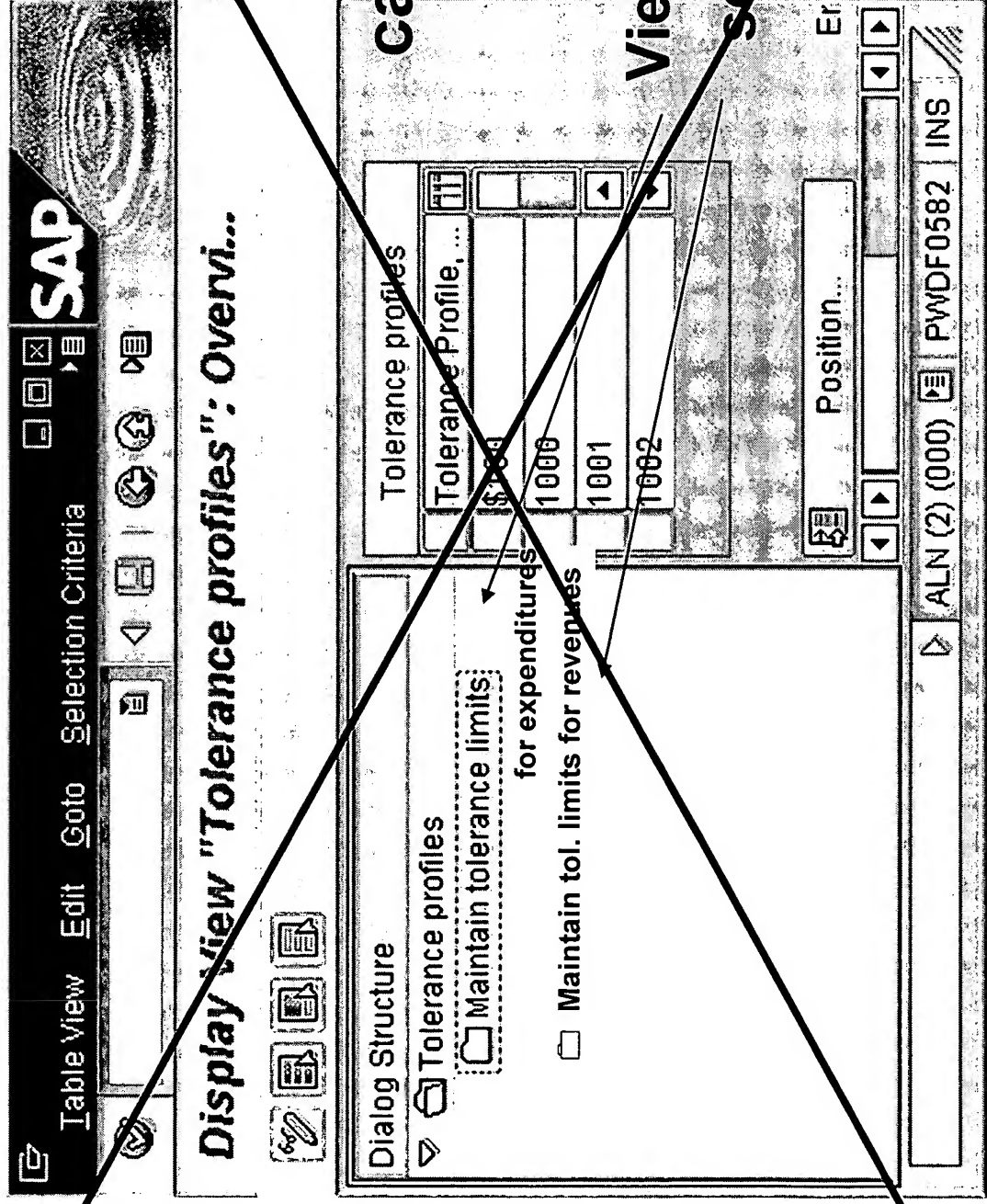→ New DB field, but no XPRA necessary !

Why 'single ledger approach'?

☐ Advantages:

- Ceiling types are easily customizable via tolerance profiles and their assignment to control objects

- AVC reporting on (preposted) budget data becomes more transparent

☐ Alternative solution: separate control ledgers with inversed check logic *(only for ceiling for revenues)*

☐ *But:*

- The number of control ledger has to be doubled for this solution, if customers decide to use checks on revenues

- Separate check ledgers basically contain data with the same amounts *(only the sign is inversed)*

New Customizing of tolerance profiles (I)

☐ New key field Ceiling Type for table BUAVCTOLASS that allows for distinguishing between ceilings for expenditures and for revenues.

☐ Enhancement of the view-cluster for maintaining tolerance profiles: ~~separate view for ceiling for revenues?~~ No, better no separate maintenance. But separate view-cluster required for applications that do not like to use this new ceiling type.

Availability Control on Revenues

New Customizing of tolerance profiles (II)

cancelled

View-cluster with separate views

Display View "Tolerance profiles": Overvi...

Table View   Edit   Goto   Selection Criteria

Dialog Structure

Tolerance profiles
Maintain tolerance limits; for expenditures

Maintain tol. limits for revenues

Tolerance profiles

Tolerance Profile, ...

1000
1001
1002

Position...

ALN (2) (000)   PWDF0582   INS

Availability Control on Revenues

New Customizing of tolerance profiles (III)

Display View "Maintain tolerance limits": Overview

Table View   Edit   Goto   Selection Criteria   Utilities   System   Help

Tolerance Profile   1002   Special Profile for Thomas

Dialog Structure
- ▽ ☐ Tolerance profiles
  - ⬡ Maintain tolerance

Maintain tolerance limits

Activ...	Text	Ceiling Type	O...	Usage rate...	Inactive	Message Type of...
++	All Groups	For expendit.	01	0,00	☐	Information
++	All Groups	For expendit.	02	100,00	☐	Warning

Position...

View with additional key field

ALN (1) (000) PWDF0582 INS

Activation of checks on revenues (I)

☐ In principle, the use (or the deactivation) of the ceiling type "revenues" (or also "expenditures") is always possible via the assignment of special tolerance profiles per control object. OK

☐ *But:* Definition of a derivation strategy is needed, which exploits the commitment item category of the control object. OK

☐ *And:* Default settings required, if the tolerance profile does not provide any tolerance limits (*for none of the two ceiling types*):

  ▪ *Proposal:* Error for usage rates > 0% for checks on expenditures ~~AND also for checks on revenues (!!!)~~

No !

Availability Control on Revenues

Activation of checks on revenues (II)

☐ *New idea*: Separately activate checks on revenues in the view V_FMAVCLDGRACT '*Maintain activation status for AVC ledger*':

→ 2 additional attributes:

- Checks on expenditures (default = checks on all commitment items)

- Checks on revenues (default = no checks)

<p style="text-align:center">cancelled</p>

☐ For each new attribute (*up to*) four different values are offered: *no checks, only checks on expenditure items (= control objects with commitment item of category '3'), only checks on revenue items, checks on all commitment items* (including value SPACE)

☐ In any case, all the posting and budget data should be updated to the control ledger, if set active.

Activation of checks on revenues (III)

Display View "Maintain activation status for availability ledger, ...

cancelled

Table View   Edit   Goto   Selection Criteria   Utilities   System   Help

FM Area   [TS01]   FM area Thomas S.

Maintain activation status for availability ledger, FM

Ava...	Ledger name	Fro...	Activation status of ...
9H	FM PB availability control	2001	Ledger not acti...
9H	FM PB availability control	2002	Active with us...

Position...

Check on expenditures	Check on revenues
On all commitment items	No checks
On all commitment items	Only on rev. items

Perhaps restriction to: on all cmmt items or only on expend. items

Entry 1 of 7

ALN (1) (000)   PWDF0582   INS

New handling of shared locks

- For ceiling type "expenditures", only amounts that reduce the available amount are considered for shared locks in order to reserve new consumptions against concurrent users.

- For ceiling type "revenues", the amounts with opposite signs have to be considered.

- → From now on, all amounts <> 0 have to be considered for enqueuing.

- Uncritical enhancement of ABAP code and of AVC lock objects

Enhancement of message handling

☐ In order to clarify, which checking type (or scope) resulted in an AVC message, a new set of messages should be created.

☐ Messages from both checking types are treated separately and in an independent manner.

☐ Uncritical enhancement of ABAP code...

Treatment of preposted budget values (I)

☐ For ceiling type "expenditures" (= classical AVC), only preposted budget values that reduce the available amount are considered as relevant for AVC in order to allow for UNDOing preposted documents in any case.

☐ For ceiling type "revenues", preposted budget values with opposite sign have to be considered.

☐ → From now on, all preposted budget values have to be considered as relevant for AVC.

☐ → AVC DB data must also allow to distinguish between 'posted' and 'preposted-reducing' and 'preposted-increasing'.

Treatment of preposted budget values (II)

☐ ~~Proposal: Use of the field ALLOCTYPE -> two additional values (e.g. PRES and PEAR).~~

Better use a new DB field (WFSTATE) for that

☐ Consequences for reporting: new 'key figures' necessary for AVC data:

- Only posted AVC data

- AVC data including preposted data for ceiling type "expenditures"

- AVC data including preposted data for ceiling type "revenues"

☐ Consequences for customers, who upgrade to EA-PS 2.0: They have to run the 'Reconstruct AVC ledger' program after the upgrade, only if they like to use the new ceiling type.